Title 154 - STATE FIRE MARSHAL

Chapter 11 - EFFECTIVE DATE AND REPEAL OF EARLIER RULES

001. These rules and regulations shall become effective five (5) days after filing with the Revisor of Regulations and the Secretary of State. Upon adoption of these rules and regulations, the prior, inconsistent rules and regulations adopted in August, 1983, shall be repealed.

Statutory Authority: Neb. Rev. Stat. §84-907 (Reissue 1981).

Legal Citation: Title 154, Ch. 11, Nebraska State Fire Marshal.

APPENDIX I

Where commercial AM broadcasting transmitters are used (0.535 to 1.605 NH_Z), electric blasting operations shall not be conducted closer to such operating transmitters than indicated in the following table:

TABLE I

Table of Distances for
Commercial AM Broadcast Transmitters
(0.535 to 1.605 NH_Z)

Transmitter Power (Watts)	Minimum Distance (Feet)
Up to 4,000	750
5,000	850
10,000	1,300
25,000	2,000
50,000	2,800
100,000	3,900
500,000	8,800

(1) 50,000 watts is the present maximum power of U.S. broadcast transmitters in this frequency range.

Title 154 - STATE FIRE MARSHAL

APPENDIX II

Where VHF, TV, FM broadcasting and FM mobile transmitters are used, electric blasting operations shall not be conducted closer to such operating transmitters than indicated in the following table:

TABLE II

Table of Distances for
VHF and FM Broadcasting Transmitters

Effective Radiative Power (Watts)	Channels 2 to 6 and FM	Channels 7 to 13
1,000	1,000	750
10,000	1,800	1,300
100,000 (1)	3,200	2,300
316,000 (2)	4,300	3,000
1,000,000	5,800	4,000
10,000,000	10,200	7,400

(1) Present maximum power channels 2 to 6 and FM -- 100,000 watts.

(2) Present maximum power channels 7 to 13 -- 316,000 watts.

Title 154 - STATE FIRE MARSHAL

APPENDIX III

Where VHF transmitters are used, electric blasting operations shall not be conducted closer to such operating transmitters than indicated in the following table:

TABLE III

Table of Distances From UHF TV Transmitters

Effective Radiative Power (Watts)	Minimum Distance (Feet)
Up to 10,000	600
1,100,000	2,000
5,000,000 (1)	3,000
100,000,000	6,000

(1) Present maximum power channels 14 to 83 -- 5,000,000 watts.

TABLE IV

Table of Distances of Mobile Transmitters
Including Amateur and Citizens Radio

Transmitter (Watts)	Minimum Distance (Feet) MF 16 to 3.4 MH_Z Industrial	HF 28 to 99.7 MH_Z Amateur	VHF 35 to 36 MH_Z Public Use 42 to 44 MH_Z Public Use 50 to 54 MH_Z Amateur	VHF 144 to 148 MH_Z Amateur 150.8 to 161.1 MH_Z Public Use	UHF 450 to 1 MH_Z Public 1
10	40	100	40	15	10
50	90	220	90	35	20
100 (1)	125	310	130	50	30
180				65	40
250 (2)	200	490	205	75	45
500			290		
600 (3)	300	760	315	115	70
1,000 (4)	400	980	410	150	90
10,000 (5)	1,250		1,300		

Citizens Band Radio (Walkie-Talkie) 5 watts -- Minimum 5 feet. 26.96 to 27.23 MH_Z

(1) Maximum power for two-way mobile units in VHF (150.8 or 161.6 MH_Z range) and for two-way mobile and fixed station units in UHF (450 to 460 MH_Z range).
(2) Maximum power for major VHF two-way mobile and fixed station units in 35 to 44 MH_Z range.
(3) Maximum power for two-way fixed station units in VHF (150.8 to 161.6 MH_Z range).
(4) Maximum power for amateur radio mobile units.
(5) Maximum power for some base stations in 42 to 44 MH_Z band and 1.6 to 1.8 MH_Z band.

Title 154 - STATE FIRE MARSHAL

APPENDIX V

TABLE "C"

AMERICAN TABLE OF DISTANCES
FOR STORAGE OF EXPLOSIVES

A. 1 Quantity Distance Table

Explosives		Distances in feet when storage is barricaded			
(1)	(2)	(3)	(4)	(5)	(6)
Pounds Over	Pounds Not Over	Inhabited Buildings	Passenger Railways	Public Highways	Separation of Magazines
2	5	70	30	30	6
5	10	90	35	35	8
10	20	110	45	45	10
20	30	125	50	50	11
30	40	140	55	55	12
40	50	150	60	60	14
50	75	170	70	70	15
75	100	190	75	75	16
100	125	200	80	80	18
125	150	215	85	85	19
150	200	235	95	95	21
200	250	255	105	105	23
250	300	270	110	110	24
300	400	295	120	120	27
400	500	320	130	130	29
500	600	340	135	135	31

Explosives		Distances in feet when storage is barricaded			
(1)	(2)	(3)	(4)	(5)	(6)
Pounds Over	Pounds Not Over	Inhabited Buildings	Passenger Railways	Public Highways	Separation of Magazines
600	700	355	145	145	32
700	800	375	150	150	33
800	900	390	155	155	35
900	1,000	400	160	160	36
1,000	1,200	425	170	165	39
1,200	1,400	450	180	170	41
1,400	1,600	470	190	175	43
1,600	1,800	490	195	180	44
1,800	2,000	505	205	185	45
2,000	2,500	545	220	190	49
2,500	3,000	580	235	195	52
3,000	4,000	635	255	210	58
4,000	5,000	685	275	225	61
5,000	6,000	730	295	235	65
6,000	7,000	770	310	245	68
7,000	8,000	800	320	250	72
8,000	9,000	835	335	255	75
9,000	10,000	865	345	260	78
10,000	12,000	875	370	270	82
12,000	14,000	885	390	275	87
14,000	16,000	900	405	280	90

Explosives		Distances in feet when storage is barricaded			
(1)	(2)	(3)	(4)	(5)	(6)
Pounds Over	Pounds Not Over	Inhabited Buildings	Passenger Railways	Public Highways	Separation of Magazines
16,000	18,000	940	420	285	94
18,000	20,000	975	435	290	98
20,000	25,000	1,055	470	315	105
25,000	30,000	1,130	500	340	112
30,000	35,000	1,205	525	360	119
35,000	40,000	1,275	550	380	124
40,000	45,000	1,340	570	400	129
45,000	50,000	1,400	590	420	135
50,000	55,000	1,460	610	440	140
55,000	60,000	1,515	630	455	145
60,000	65,000	1,565	645	470	150
65,000	70,000	1,610	660	485	155
70,000	75,000	1,655	675	500	160
75,000	80,000	1,695	690	510	165
80,000	85,000	1,730	705	520	170
85,000	90,000	1,760	720	530	175
90,000	95,000	1,790	730	540	180
95,000	100,000	1,815	745	545	185
100,000	110,000	1,835	770	550	195
110,000	120,000	1,855	790	555	205
120,000	130,000	1,875	810	560	215

Explosives		Distances in feet when storage is barricaded			
(1)	(2)	(3)	(4)	(5)	(6)
Pounds Over	Pounds Not Over	Inhabited Buildings	Passenger Railways	Public Highways	Separation of Magazines
130,000	140,000	1,890	835	565	225
140,000	150,000	1,900	850	570	235
150,000	160,000	1,935	870	580	245
160,000	170,000	1,965	890	590	255
170,000	180,000	1,990	905	600	265
180,000	190,000	2,010	920	605	275
190,000	200,000	2,030	935	610	285
200,000	210,000	2,055	955	620	295
210,000	230,000	2,100	980	635	315
230,000	250,000	2,155	1,010	650	335
250,000	275,000	2,215	1,040	670	360
275,000	300,000	2,275	1,075	690	385

Title 154 - STATE FIRE MARSHAL

APPENDIX VI

TABLE "D"

TABLE OF DISTANCES FOR STORAGE OF LOW EXPLOSIVES

Pounds (over) (1)	Pounds (not over) (2)	Inhabited Building Distance (feet) (3)	Public Railroad and Highways Distance (feet) (4)	Aboveground Magazine (feet) (5)
0	1,000	75	75	50
1,000	5,000	115	115	75
5,000	10,000	150	150	100
10,000	20,000	190	190	125
20,000	30,000	215	215	145
30,000	40,000	235	235	155
40,000	50,000	250	250	165
50,000	60,000	260	260	175
60,000	70,000	270	270	185
70,000	80,000	280	280	190
80,000	90,000	295	295	195
90,000	100,000	300	300	200
100,000	200,000	375	375	250
200,000	300,000	450	450	300

Title 154 - STATE FIRE MARSHAL

APPENDIX VII

TABLE "E"

TABLE OF RECOMMENDED SEPARATION DISTANCES OF AMMONIUM NITRATE AND BLASTING AGENTS FROM EXPLOSIVE OR BLASTING AGENTS*

Donor Weight		Minimum Separation Distance of Receptor When Barricaded[1] (ft.)		Minimum Thickness of Artificial Barricades[4] (in.)
Pounds Over	Pounds Not Over	Ammonium Nitrate[2]	Blasting Agents[3]	
	100	3	11	12
100	300	4	14	12
300	600	5	18	12
600	1,000	6	22	12
1,000	1,600	7	25	12
1,600	2,000	8	29	12
2,000	3,000	9	32	15
3,000	4,000	10	36	15
4,000	6,000	11	40	15
6,000	8,000	12	43	20
8,000	10,000	13	47	20
10,000	12,000	14	50	20
12,000	16,000	15	54	25
16,000	20,000	16	58	25
20,000	25,000	18	65	25
25,000	30,000	19	68	30
30,000	35,000	20	72	30
35,000	40,000	21	76	30
40,000	45,000	22	79	35
45,000	50,000	23	83	35
50,000	55,000	24	86	35
55,000	60,000	25	90	35
60,000	70,000	26	94	40
70,000	80,000	28	101	40
80,000	90,000	30	108	40

Title 154 - STATE FIRE MARSHAL

APPENDIX VII

Donor Weight		Minimum Separation Distance of Receptor When Barricaded[1] (ft.)		Minimum Thickness of Artificial Barricades[4] (in.)
Pounds Over	Pounds Not Over	Ammonium Nitrate[2]	Blasting Agents[3]	
90,000	100,000	32	115	40
100,000	120,000	34	122	50
120,000	140,000	37	133	50
140,000	160,000	40	144	50
160,000	180,000	44	158	50
180,000	200,000	48	173	50
200,000	220,000	52	187	60
220,000	250,000	56	202	60
250,000	275,000	60	216	60
275,000	300,000	64	230	60

*Reprinted from Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents, NFPA No. 492-1969 Edition, as approved by the Institute of Makers of Explosives.

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Title 154 - STATE FIRE MARSHAL

FOOTNOTES TO APPENDIX VII

Separation distances to prevent explosion of ammonium nitrate and ammonium nitrate-based blasting agents by propagation from nearby stores of high explosives or blasting agents are referred to in the Table as the "donor". Ammonium nitrate, by itself, is not considered to be a donor when applying this Table. Ammonium nitrate, ammonium nitrate-fuel oil or combinations thereof are acceptors. If stores of ammonium nitrate are located within the sympathetic detonation distance of explosives or blasting agents, one-half the mass of the ammonium nitrate should be included in the mass of the donor.

These distances apply to the separation of stores only. The American Table of Distances shall be used in determining separation distances from inhabited buildings, passenger railways and public highways.

[1]When the ammonium nitrate and/or blasting agent is not barricaded, the distance shown in the Table shall be multiplied by six. These distances allow for the possibility of high velocity metal fragments from mixers, hoppers, truck bodies, sheet metal structures, metal containers, and the like which may enclose the "donor". Where storage is in bullet-resistant magazines recommended for explosives or where the storage is protected by a bullet-resistant wall, distances and barricade thicknesses in excess of those prescribed in the American Table of Distances are not required.

[2]The distances in the Table apply to ammonium nitrate that passes the insensitivity test prescribed in the definition of ammonium nitrate fertilizer promulgated by the National Plant Food Institute; and ammonium nitrate failing to pass said test shall be stored at separation distances determined by competent persons and approved by the authority having jurisdiction.

[3]These distances apply to nitro-carbo-nitrates and blasting agents which pass the insensitivity test prescribed in the U.S. Department of Transportation ("DOT") regulations.

[4]Earth or sand dikes, or enclosures filled with the prescribed minimum thickness of earth or sand are acceptable artificial barricades. Natural barricades, such as hills or timber of sufficient density that the surrounding exposures which require protection cannot be seen from the "donor" when the trees are bare of leaves are also acceptable.

APPROVED:
Date 4-1-85
Governor

APR 1985
SECRETARY OF STATE
Secretary of State

APPROVED
ROBERT M. SPIRE
ATTORNEY GENERAL
BY
Assitant Attorney General
DATE 5-11-85